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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/421,818	10/20/1999	JAMES H. WANG	11302-0411	4641

7590 12/24/2003
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EXAMINER	
VO, HAI	
ART UNIT	PAPER NUMBER
1771	

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/421,818	WANG ET AL.	
Examiner	Art Unit	
Hai Vo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3, 4 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 4 and 6-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 6, 7, 11, and 14-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,268,048 substantially as set forth in the Office Action mailed on 12/04/2002.
3. Claims 8-10 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,268,048 in view of Wu et al (US 5,865,926) substantially as set forth in the Office Action mailed on 12/04/2002. Claim 10 should be included in the double patenting rejections above for the inherency reasons. Applicant argues that the claims of Topolcaraev do not teach or suggest a film having the features claimed in the present invention, particularly the elongation-at-break or the formation of the pores when stretched. Therefore, the double patenting rejections should be withdrawn. The examiner disagrees. It appears that the film of U.S. Patent No.

6,268,048 is made of the same material such as a homogeneous blend of poly(ethylene oxide) and a particulate filler having the particle size and concentration within the same ranges. Further, the poly(ethylene oxide) has a molecular weight within the claimed range. The film of U.S. Patent No. 6,268,048 is porous, flushable, ductile and breathable as that of the film of present invention. It is not seen that the film of U.S. Patent No. 6,268,048 would have performed differently from that of the present invention in term of elongation properties. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. Additionally, claim 20 of U.S. Patent No. 6,268,048 discloses that the formation of the pores around the clay particulate during the melt processing of the composition. Claim 20 of U.S. Patent No. 6,268,048 does not specifically disclose that the formation of the pores around the clay particulate when the film is stretched. However, it is a product-by-process limitation not as yet shown to produce a patentably distinct article. It is the examiner's position that the films of US Patent No. 6,268,048 and present invention are structurally the same and made of the same materials, i.e., a homogeneous blend of poly(ethylene oxide) and a particulate filler having the particle size and concentration within the same ranges. The poly(ethylene oxide) has a molecular weight within the claimed range. Both films are porous, flushable, ductile and breathable. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the

Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with US Patent No. 6,268,048.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 6, 7 and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Callahan et al (US 6,057,061) in view of Radovanovic et al (US 6,096,213) as evidenced by Shinomura (US 4,100,238). Callahan discloses a microporous film being formed from a uniform blend of 63 volume % ethylene vinyl alcohol copolymer and 37 volume % particulate filler and by a particle stretch technique (example 1, column 2, lines 55-57). Callahan discloses the filler having a particle size ranging from 0.4 to 0.8 microns which is anticipatory of the claims. Callahan discloses the film having a thickness of 10 mils (column 4, lines 18-19). Callahan further discloses the film having a thickness of 5 to 200 microns (0.2 to 7.9 mils). The thickness range of claim 13 overlaps with the value disclosed in Callahan. Callahan is silent as to a microporous film comprising poly(ethylene oxide). Radovanovic discloses a microporous membrane formed from poly(ethylene oxide) to impart a high biaxial orientation ratio in a manner

that enhances its mechanical integrity (column 4, lines 6-10, and 25-26), which is important to the invention of Callahan and thus suggesting the modification.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace ethylene vinyl alcohol copolymer by poly(ethylene oxide) to form a microporous film of Callahan motivated by the desire to impart a high biaxial orientation ratio in a manner that enhances its mechanical integrity.

Callahan and Radovanovic do not specifically disclose the molecular weight of poly(ethylene oxide). Therefore, it is necessary and thus obvious for the skilled artisan to look to the prior art for a suitable molecular weight of the poly(ethylene oxide). Shimomura teaches a porous membrane for use in battery separator comprising a poly(ethylene oxide) with a molecular weight of 100,000 to 10,000,000 (column 3, lines 34-35), meeting the range set out in the claims. In the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the poly(ethylene oxide) with a molecular weight within the range instantly claimed because such is a typical range of the molecular weight of poly(ethylene oxide) for use in battery separators and Shinomura provides necessary details to practice the invention of Callahan/Radovanovic.

It appears that the film of Callahan as modified by Radovanovic and Shinomura has the composition similar to that of Applicant's film, i.e., a homogeneous blend of a poly(ethylene oxide) and a particulate filler wherein the

filler comprises at least 10 percent by weight of the precursor film, wherein poly(ethylene oxide) has a molecular weight within the claimed range. The films of the Callahan and Applicants have the pores being formed around the particulate filler that has a particle size within the claimed range. Both films are made with the similar thickness. It is not seen that the film of Callahan as modified by Radovanovic and Shinomura would have performed differently from that of the present invention in term of elongation, flushability, ductility and breathability. This is in line with In re Spada, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties.

6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Callahan et al (US 6,057,061) in view of Radovanovic et al (US 6,096,213). It appears that the film of Callahan as modified by Radovanovic has the composition similar to that of Applicant's film, i.e., a homogeneous blend of a poly(ethylene oxide) and a particulate filler wherein the filler comprises at least 10 percent by weight of the precursor film, wherein the precursor film when stretched forms pore around the particulate filler that has a particle size within the claimed range. The film is made with a thickness meeting the specific range required by the claims. It is not seen that the film of Callahan as modified by Radovanovic would have performed differently from that of the present invention in term of elongation, flushability, ductility and breathability. This is in line with In re Spada, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have

mutually exclusive properties. Callahan does not specifically disclose at least one additional layer adhered to the microporous film as a battery separator.

Radovanovic teaches a microporous film for use in battery separators comprising an additional layer being bonded to the microporous film (column 9, lines 10-12). The teaching of Radovanovic would give the skilled artisans the tools necessary to conclude that it is obvious to form at least additional layer adhered to the microporous film because such is a desirable structure of the battery separator (column 9, lines 13-16). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form at least additional layer adhered to the microporous film of Callahan because such is a desirable structure of the battery separator and Radovanovic provides necessary details to practice the invention of Callahan.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on M,T,Th, F, 8:30-6:00 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Art Unit: 1771

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV

Hai Vo
TC 17⁰⁰